

OWNER'S GUIDE

• ASSEMBLY • OPERATION • MAINTENANCE • PARTS •



190-100-000 MULCHER

22" SELF- PROPELLED ROTARY MOWERS

Model Numbers

122-280R000

122-281R000

122-282R000

190-086-000 CATCHER

IMPORTANT!

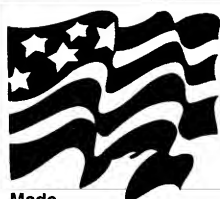
Record the **Model No.** and **Mfg. Code** which appear on your unit in the space below. You **must** have these numbers, along with the date of purchase, in order to receive warranty or service.

MEETS ANSI SAFETY STANDARDS

MODEL NO.

MFG. CODE

Important:
Read Safety Rules
and Instructions Carefully



Made
in
AMERICA


WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 360900, Cleveland, Ohio 44136.

IMPORTANT

SAFE OPERATION PRACTICES



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR LAWN MOWER. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL— HEED ITS WARNING.



DANGER:

Your lawn mower was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.



TRAINING

1. Read this owner's guide carefully in its entirety before attempting to assemble or operate this machine. Be completely familiar with the controls and the proper use of this machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Your rotary mower is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times. Your unit has been designed to perform one job: to mow grass. Do not use it for any other purpose.
3. Never allow children under 14 years old to operate a power mower. Children 14 years old and over should only operate mower under close parental supervision. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
4. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower to help prevent blade contact or thrown object injury. Although the area of operation should be completely cleared of foreign objects, an object may have been overlooked and could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.



PREPARATION

1. Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones and other foreign objects which could be picked up and thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like.
2. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.
3. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Shirts and pants that cover the arms and legs and steel-toed shoes are recommended. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals, or sneakers.
4. Before working with gasoline, extinguish all cigarettes, cigars, pipes and other sources of ignition. Check the fuel level before starting the engine. Gasoline is an extremely flammable fuel. Do not fill the gasoline tank indoors, while the engine is running, or until engine has been allowed to cool for at least two minutes after running. Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
5. Disengage the self-propelled mechanism or drive clutch on units so equipped before starting the engine.
6. The blade control handle is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating blade. The blade control handle must operate easily in both directions and automatically return to the disengaged position when released.
7. Never attempt to make a wheel or cutting height adjustment while the engine is running.
8. Never operate the mower in wet grass. Always be sure of your footing. A slip and fall can cause serious personal injury. Keep a firm hold on the handle and walk, never run. Mow only in daylight or in good artificial light.

9. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.



OPERATION

1. Do not change the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
2. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade can cause injury.
3. Stop the blade when crossing gravel drives, walks or roads.
4. After striking a foreign object, stop the engine, remove the wire from the spark plug, and thoroughly inspect the mower for any damage. Repair the damage before restarting and operating the mower.
5. If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
6. Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher or unclogging the chute. The cutting blade continues to rotate for a few seconds after the engine is shut off. Never place any part of the body in the blade area until you are sure the blade has stopped rotating.
7. Before cleaning, repairing or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the spark plug to prevent accidental starting.
8. Do not run the engine indoors.
9. Never cut grass by pulling mower toward you. Mow across the face of slopes, never up-and-down. Exercise extreme caution when changing direction on slopes. Do not mow excessively steep slopes. Always be sure of your footing. A slip and fall can cause serious personal injury.
10. Never operate mower without proper guards, plates or other safety protective devices in place.
11. Muffler and engine become hot and can cause a burn. Do not touch.



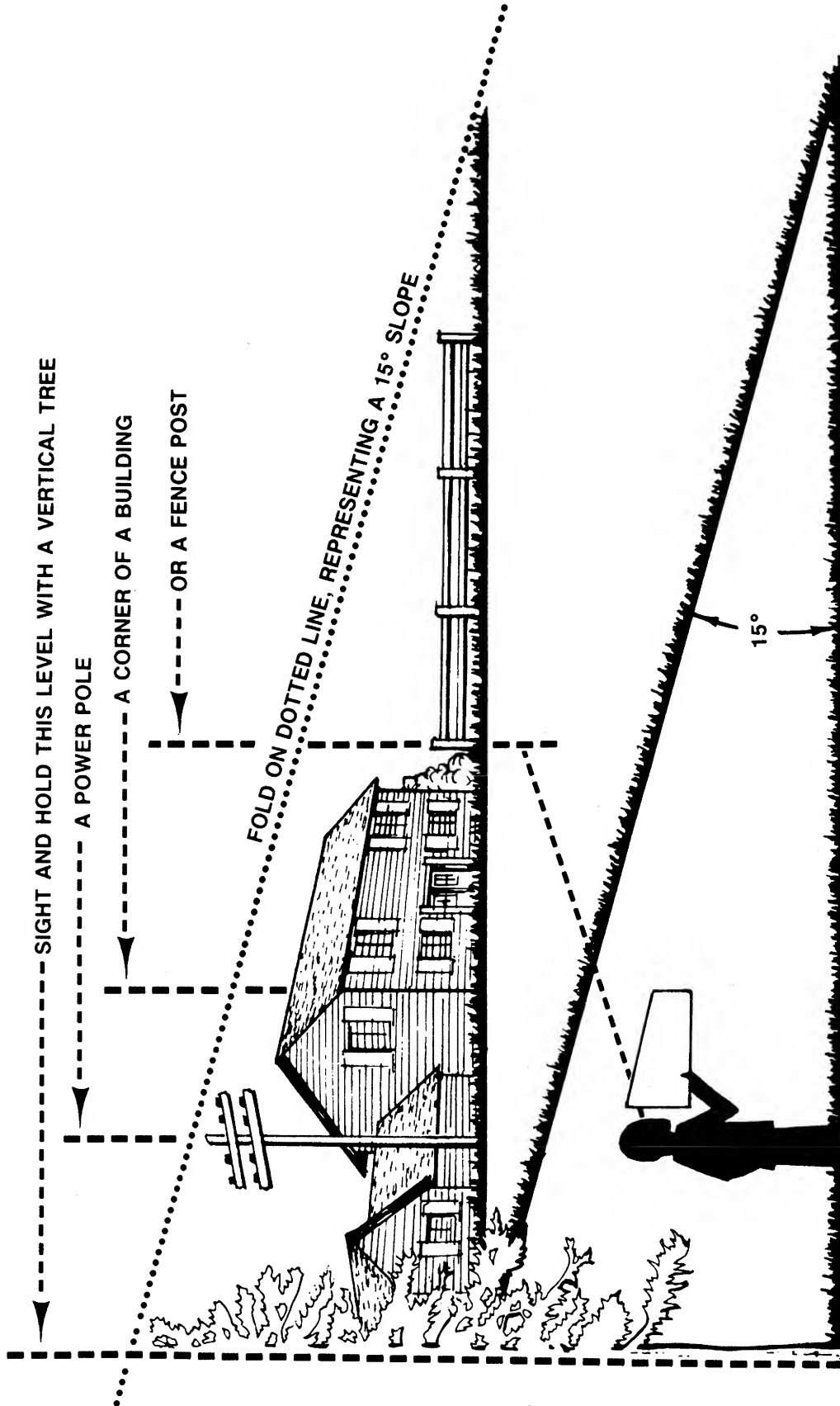
MAINTENANCE AND STORAGE

1. Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also visually inspect blade for damage (e.g. bent, cracked). Replace with blade which meets original equipment specifications.
2. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
3. Never store the mower with gasoline in the tank or gas containers inside of a building where fumes may reach an open flame or spark (e.g. gas hot water heater). Allow the engine to cool before storing in any enclosure.
4. To reduce fire hazard, keep the engine free of grass, leaves and excessive oil.
5. Check the grass catcher bag frequently for wear or deterioration. Replace a worn or damaged bag immediately. For safety protection, replace only with new bag meeting original equipment specifications.

USE THIS SHEET AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.

SLOPE GAUGE

(Keep this sheet in a safe place for future reference.)



WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.

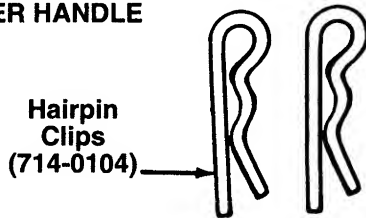
Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

CONTENTS OF HARDWARE PACK/PARTS IDENTIFICATION

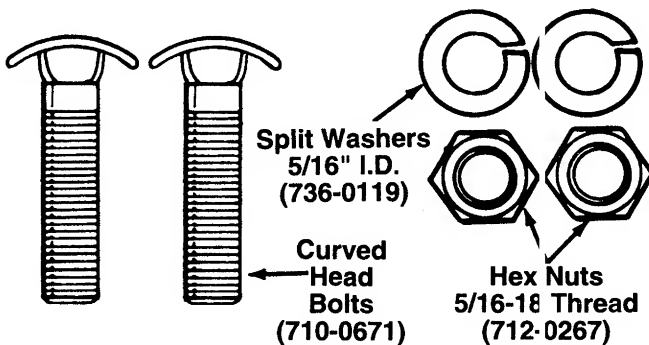
Remove this sheet from your owner's manual and lay the hardware on the illustration for identification purposes. After assembly, keep the Slope Gauge which is on the reverse side of this sheet for future use.

(Hardware pack may contain extra items which are not used on your unit. Part numbers are shown in parentheses.)

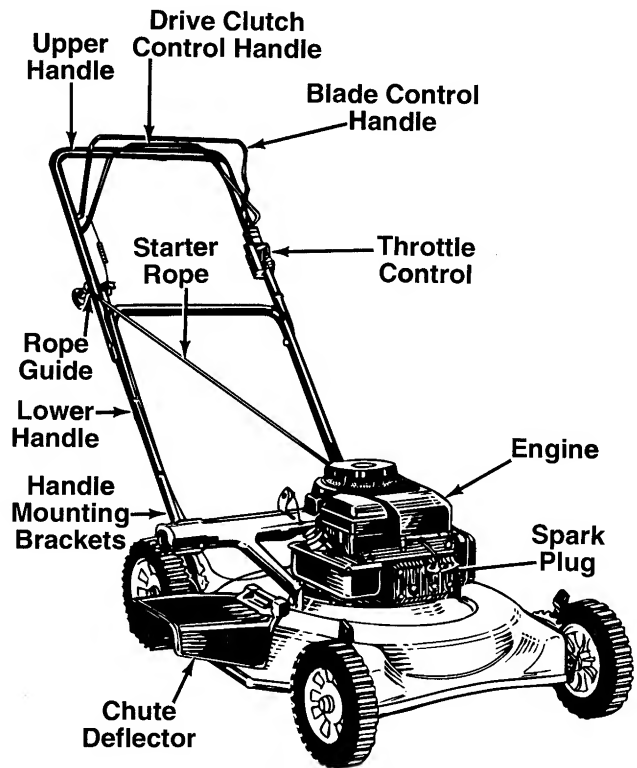
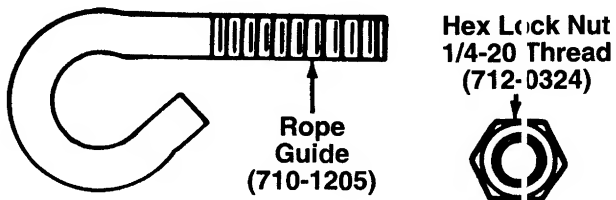
A ATTACHING THE LOWER HANDLE



B ATTACHING THE UPPER HANDLE



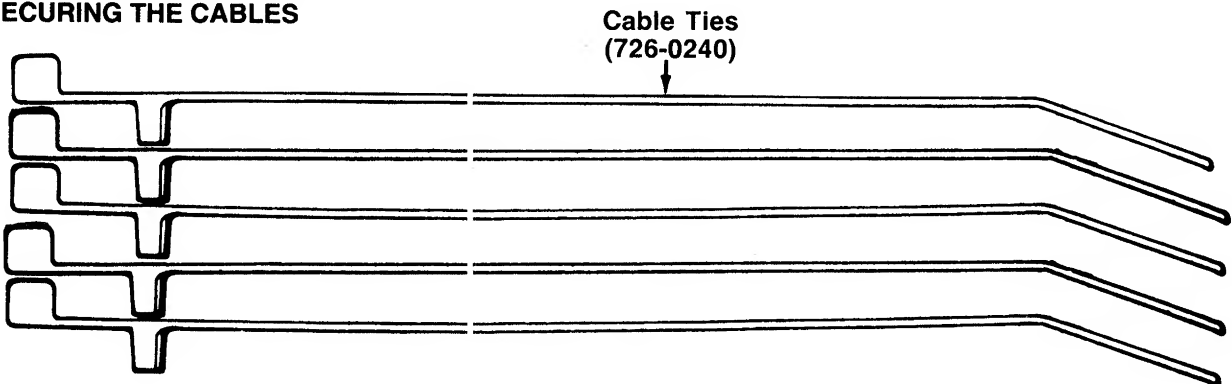
C ATTACHING THE STARTER ROPE



(Model 280R Shown)

PARTS IDENTIFICATION

D SECURING THE CABLES



ASSEMBLY INSTRUCTIONS

IMPORTANT: This unit is shipped **WITHOUT GASOLINE or OIL**. After assembly, service engine with gasoline and oil as instructed in the separate engine manual packed with your unit.

Tools Required for Assembly

- (1) Pair of Pliers
- (1) 1/2" Wrench or Adjustable Wrench
- (1) Phillips Screwdriver
- (1) 7/16" Wrench or Adjustable Wrench

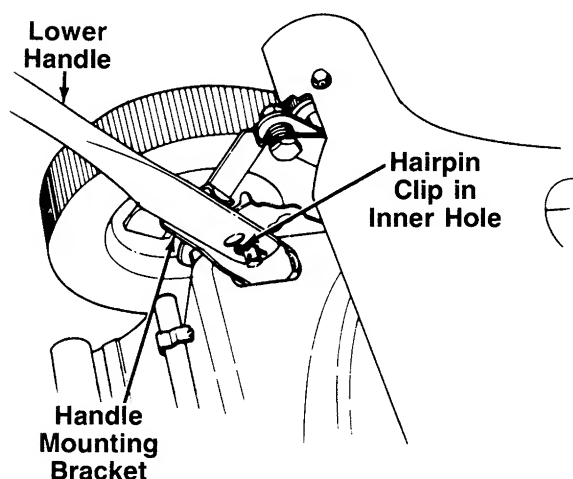


FIGURE 1.

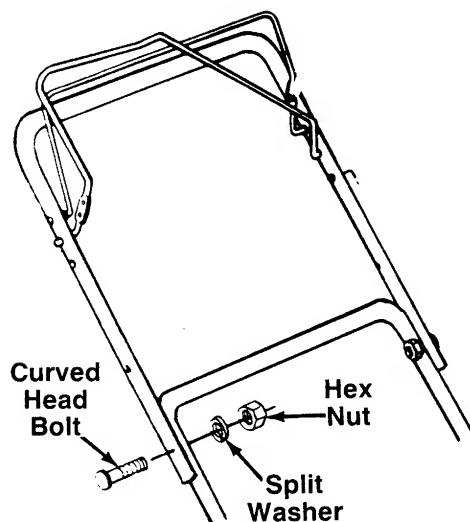


FIGURE 2.

NOTE: Reference to right or left hand side of the mower is observed from the operating position. Refer to parts identification on page 4 for location of parts when assembling the mower.

UNPACKING

1. Remove the lawn mower from the carton by opening the top flaps and lifting the unit out. Be careful of the staples. Make certain all parts and literature have been removed from the carton before the carton is discarded.
2. Disconnect the spark plug wire and move away from the spark plug.
3. Stretch out all control cables behind the mower and place on the floor. Be careful not to bend or kink the cables at any time during assembly.
4. Remove page four from this manual and lay the contents of the hardware pack on the illustration for identification.

ATTACHING THE LOWER HANDLE (Hardware A)

1. Attach the lower handle by placing the bottom holes in the lower handle over the weld pins on the handle mounting brackets extending through the rear of the deck.
2. Using a pair of pliers, squeeze one leg of the lower handle against the handle mounting bracket. Insert the hairpin clip into the inner hole in the weld pin. See figure 1. Repeat on other side.

NOTE: There are two (2) holes in the handle mounting brackets. Place the hairpin clip in the inner hole for operation. Outer hole is for storage.

ATTACHING THE UPPER HANDLE (Hardware B)

1. Place the upper handle in position over the lower handle. The control handles (attached to the upper handle) must be positioned as shown in figure 2, on top of the handle.
2. Secure the upper handle to the lower handle using the curved head bolts, split washers and hex nuts as shown.

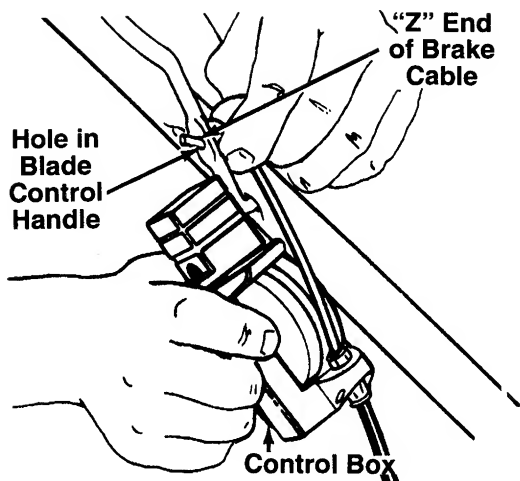


FIGURE 3.

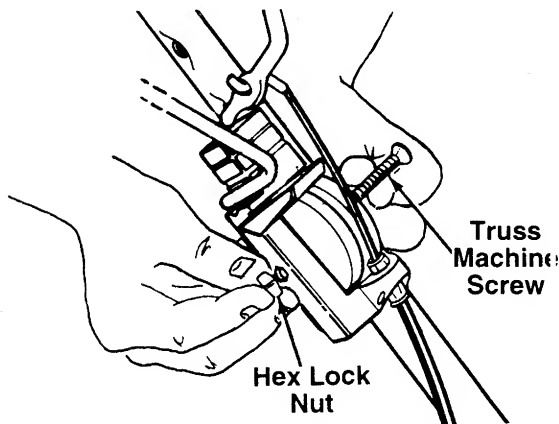


FIGURE 4.

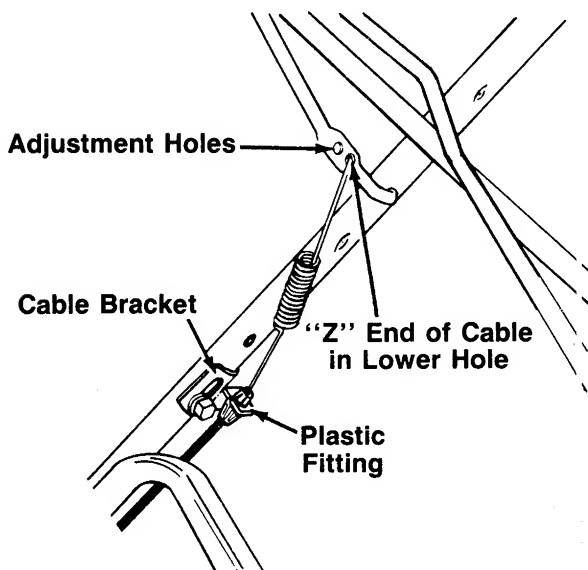


FIGURE 5.

ATTACHING THE CONTROL BOX

One end of the throttle control cable and one end of the brake cable are attached to the engine. The other ends are attached to the control box. Attach the control box to the upper handle as follows.

1. Remove the truss machine screw and hex lock nut from the middle of the control box using a phillips screwdriver. Place your finger over the hex lock nut to hold it inside the control box so you can unscrew the truss machine screw.
2. Remove the drive clutch control handle from the upper handle (pull right side out of hole in upper handle first, then left side). Make certain blade control handle stays on top of upper handle. Refer to figure 2.
3. Route the control box (with cables attached) under the lower handle. Make certain the cables are not twisted. Hold the control box near the left side of the upper handle (control box must be inside the handle).

NOTE: If the brake cable is not attached to the control box, insert the "Z" end of the cable into the control box as shown in figure 3. Push the plastic fitting until it locks into the control box.

4. Hook the "Z" end of the brake cable into the blade control handle from the **outside** to the **inside**. See figure 3.
5. Place the control box on the upper handle just below the end of the control handle as shown in figure 4. Secure with hardware removed in step one by placing hex lock nut into the indent on the inside of the control box. Screw the truss machine screw into the hex lock nut.
6. Insert long end (left side) of drive clutch control handle into the hole in the control box as shown in figure 4. Insert the short end (right side) into the hole below the blade control handle.

ATTACHING THE DRIVE CLUTCH CONTROL CABLE

1. The drive clutch cable is attached to the drive cover, and has a spring on one end. Route the cable under the cover lower handle. Hook the spring on the end of the cable into the lower hole on the drive clutch handle. See figure 5.
2. Pull down on the plastic cable casing, and slip the control wire through the slot in the cable bracket. Push the plastic fitting on the end of the cable casing into the cable bracket.

NOTE: If necessary, push down on the drive cover (see figure 6) to obtain sufficient slack in the cable.

To adjust the drive clutch control cable, proceed as follows.

1. Place the wheels in the lowest cutting height position.

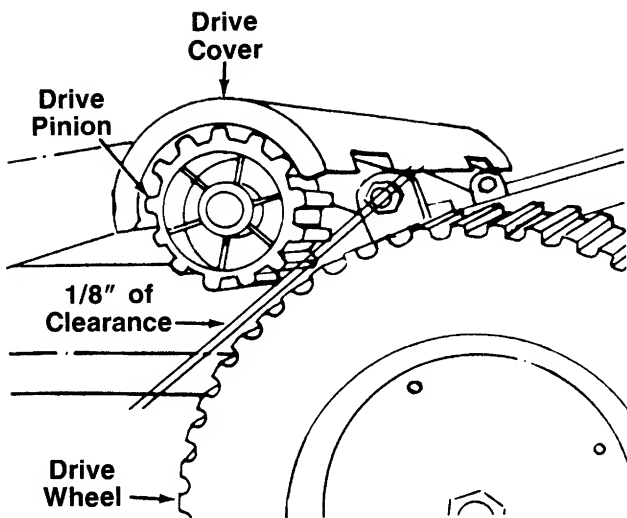


FIGURE 6.

2. Loosen the screw which secures the cable bracket.
3. With the drive clutch control handle released, pull down on the cable and cable bracket until there is a minimum of 1/8" clearance between the drive pinions and the drive wheels. See figures 5 and 6. Tighten the cable bracket in this position.

NOTE: Two pieces of cardboard removed from the carton may be used to measure the clearance as follows. Place a piece of cardboard between the drive pinion and wheel on each side of the unit. With the drive clutch control handle released, pull down on the cable and cable bracket until the drive pinions contact the cardboard. Tighten the cable bracket in this position. Remove the cardboard.

Before starting the mower, check the drive clutch adjustment as follows.

When the clutch control is engaged (clutch control handle is squeezed against the upper handle), the drive pinions should mesh with the gear tread tires. The drive pinions should clear the drive wheels by a minimum of 1/8" when the clutch is disengaged. See figure 6. If adjustment is necessary, loosen the cable bracket on the upper handle and adjust it as instructed above. If additional adjustment is still required, unhook the cable from the clutch handle, and move it to the hole to obtain less clearance.

SECURING THE CABLES (Hardware D)

Secure all cables to the handle as follows.



WARNING: When attaching the control cables, the cables must be routed to avoid contact with all sharp edges and hot surfaces to prevent damage to the cables, which will render the controls inoperative.

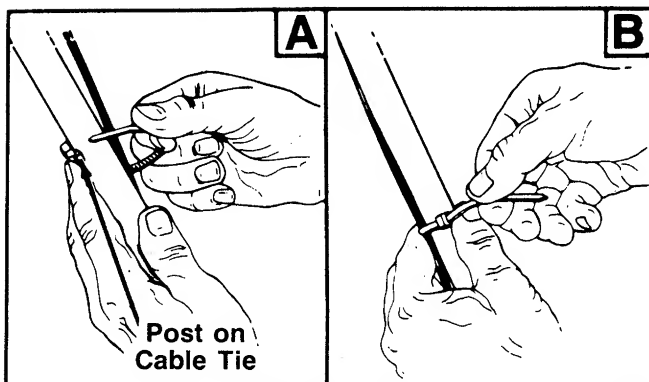


FIGURE 7.

1. Insert posts on cable ties into holes provided on the handles. The holes may be either on the inside or outside of the handles. Two go on each leg of the lower handle (one near the top and one near the bottom), and one goes on the left side of upper handle. See figure 7A.
2. Secure the cables with the cable ties. See figure 7B.
3. Trim excess ends of cable ties.

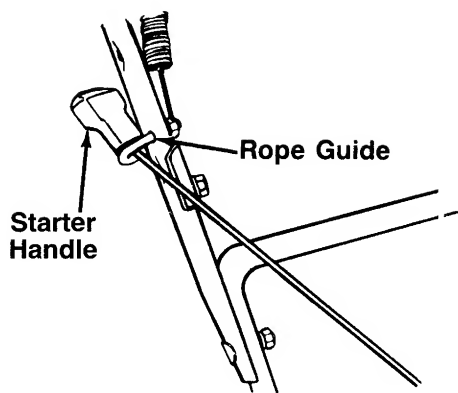


FIGURE 8.

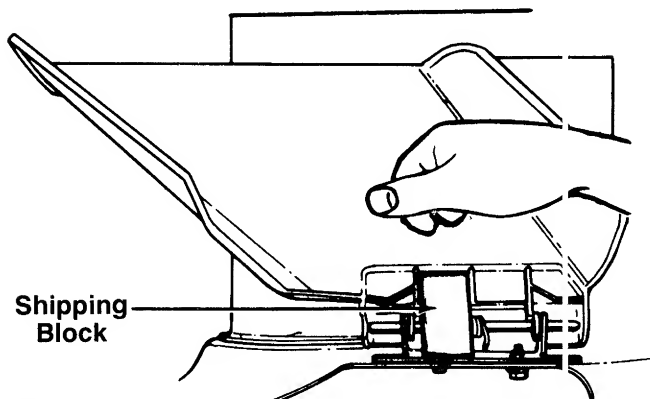


FIGURE 9.

ATTACHING THE STARTER ROPE (Hardware C)

1. The starter rope is inside the top of the engine. Additional rope may be wound around the starter handle. If so, unwind the rope from the handle.
2. With the spark plug wire disconnected and grounded, depress the blade control handle and pull the rope out of the engine.
3. Place the rope guide around the starter rope, so the rope guide is positioned as shown (bends downward slightly). See figure 8. Insert the rope guide through the right side of the upper handle, the cable bracket, and secure with hex lock nut.

FINAL ASSEMBLY OF MOWER

1. The chute deflector on your mower is held in an upright position by a block for shipping purposes only. This shipping block must be removed and discarded before the mower is put into operation. See figure 9.
To remove the shipping block, move the spring-loaded chute toward the engine by pushing above the shipping block. Remove the block and carefully lower the chute into operating position, keeping fingers out of the way.
2. Make certain **all** nuts and bolts are tightened securely.

CONTROLS

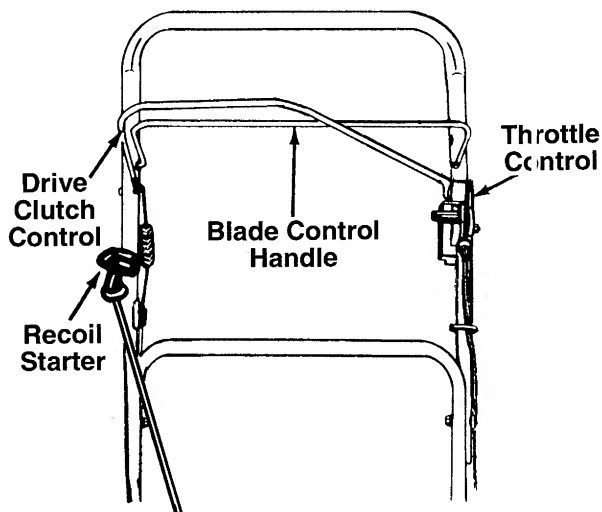


FIGURE 10.

BLADE CONTROL HANDLE



WARNING: This control mechanism is a safety device. Never attempt to bypass its operations.

The blade control handle is located on the upper handle of the mower. See figure 10. The blade control handle must be depressed in order to operate the unit. Release the blade control handle to stop the engine and blade.



WARNING: The blade will be rotating whenever the engine is running.

THROTTLE CONTROL

The throttle control is located on the side of the upper handle. It is used to regulate the engine speed.



WARNING: The throttle control cannot be used to stop the engine.

RECOIL STARTER

The recoil starter handle is attached to the handle. See figure 10. Stand behind the unit in the operating position to start the unit.

DRIVE CLUTCH CONTROL

Squeezing the drive clutch control handle engages the drive mechanism to the wheels. Releasing the clutch control stops the wheels from driving. Release the drive clutch control to slow down when negotiating an obstacle, making a turn or stopping. See figure 10.

OPERATION



FIGURE 11.

Keep hands and feet away from the chute area on cutting deck. See figure 11.

The operation of any lawn mower can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields. We recommend wide vision safety mask for over spectacles or standard safety glasses.



NOTE: Adjust the cutting height of your mower before operating. See adjustment section of this manual.

BEFORE STARTING

1. Service the engine with gasoline and oil as instructed in the separate engine manual packed with your unit. Read instructions carefully.



WARNING: Never fill fuel tank indoors, with engine running or until the engine has been allowed to cool for at least two minutes after running.

2. Attach spark plug wire to spark plug.
3. Before each use, check drive clutch adjustment. When the clutch handle is engaged, the drive pinions should mesh simultaneously with the gear tread tires. When the clutch handle is released, the pinions should clear the wheels by a minimum of 1/8". See drive clutch adjustment on page 10 for further details.

TO START ENGINE AND ENGAGE BLADE



WARNING: When starting the unit for the first time, face the mower against a solid object such as a wall, fence, etc. Start the unit, and if it shows any signs of motion with the drive clutch control disengaged, shut the engine off immediately. Refer to page 10 for further instructions on the drive clutch adjustment.

1. Move throttle control lever all the way forward.
2. If unit is equipped with a primer, prime engine as instructed in the separate engine manual.
3. Standing behind the unit, depress the blade control handle and hold it against the upper handle. Be certain drive clutch handle is released.
4. Grasp the recoil starter handle and pull back rapidly, extending rope fully. Return it slowly to the rope guide.
5. After engine starts, move throttle control to desired engine speed.

NOTE: If any problems are encountered, refer to the Trouble Shooting Guide on page 16.

TO STOP ENGINE AND BLADE

1. Move throttle control lever to SLOW position.
2. Release the blade control handle to stop the engine and blade.



WARNING: The blade continues to rotate for a few seconds after the engine is shut off.

3. Disconnect the spark plug wire and ground it against the engine to prevent accidental starting while equipment is unattended.

USING YOUR ROTARY MOWER

Be sure that lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. Such objects could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator and others.

For the best results, do not cut wet grass because it tends to stick to the underside of the mower, preventing proper discharge of grass clippings, and could cause you to slip and fall. New grass, thick grass or wet grass may require a narrower cut. Blade speed should be adjusted to the condition of the lawn.

The best mowing pattern is one that allows the clippings to discharge towards the uncut part of the lawn. This permits recutting of the clippings to further pulverize them. When cutting high weeds, discharge towards cut portion, then recut at right angles to first direction.

For best results, cut off one-third or less of the total length of the grass. Lawn should be cut in the fall as long as there is growth.

This mower is designed to be operated at full throttle to give you the best cut and do the most effective job of bagging the cut grass.



WARNING: If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower. Extensive vibration of the mower during operation is an indication of damage. The unit should be promptly inspected and repaired.

ADJUSTMENTS



WARNING: Do not at any time make any adjustment to lawn mower without first stopping engine and disconnecting spark plug wire.

CUTTING HEIGHT ADJUSTMENT

An adjusting plate and thumb lever at each wheel position provides cutting height adjustment. Each adjusting plate has nine height positions. Height of cut will be changed when the thumb lever is moved from one hole to another. Simply depress the lever towards wheel and move wheel and lever assembly to desired position. All wheels must be placed in the same relative position. See figure 12.

For rough or uneven lawns, move the wheels to a position which will give a higher cutting height.

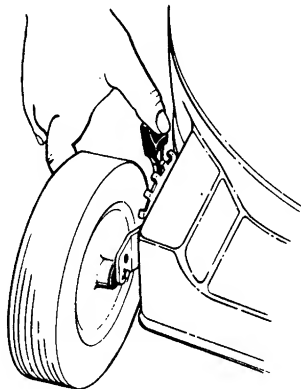


FIGURE 12.

DRIVE CLUTCH ADJUSTMENT

The drive pinions should be a minimum of 1/8" from the drive wheels when the clutch is disengaged (clutch control handle is not squeezed against upper

handle). Refer to figure 6. When the clutch control is engaged, the drive pinions should mesh with the tires.

If adjustment is necessary, loosen the screw which secures the cable bracket on the handle. Adjust until there is at least 1/8" of clearance. If additional adjustment is required, unhook the cable from the clutch handle, and move it to the higher hole to obtain less clearance. Using the lower hole gives more clearance. Retighten the cable bracket when the correct adjustment is reached.

THROTTLE CONTROL ADJUSTMENT

If the throttle control needs adjustment or if it has been replaced, adjust as follows.

1. Remove the screw shown in figure 13A. Remove the cable clamp from the cable.

NOTE: If you have a Tecumseh engine, simply loosen the screw shown in figure 13B so the cable will move freely beneath the clamp. It is not necessary to remove the screw and clamp completely.

2. Push the throttle control lever on the handle all the way forward as far as it will go, then back it off one "click". Make certain the throttle control lever remains in this position.
3. Push the control lever on the engine as far toward the rear of the engine as it will go. Secure the cable in this position with the cable clamp and screws.

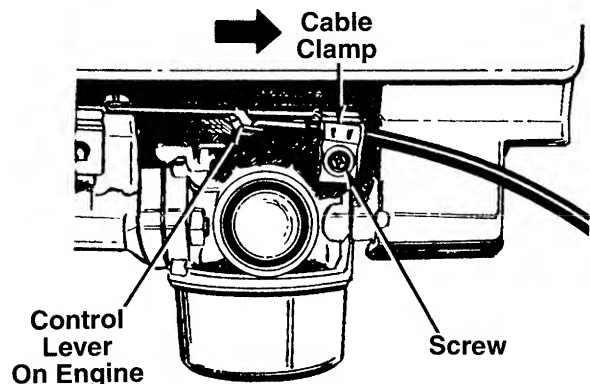


FIGURE 13A.—Briggs & Stratton Engines

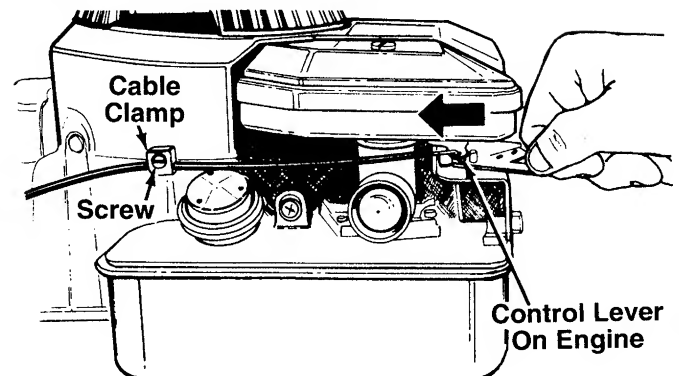


FIGURE 13B.—Tecumseh Engines

CARBURETOR ADJUSTMENTS



WARNING: If any adjustments are made to the engine while the engine is running (e.g. carburetor), keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustments may be required to compensate for differences in fuel, temperature, altitude and load. To adjust carburetor, refer to the separate engine manual packed with your mower.

NOTE: A dirty air cleaner will cause an engine to run rough. Be certain air cleaner is clean and attached to the carburetor before adjusting carburetor. Refer to the separate engine manual.

LUBRICATION



WARNING: Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on lawn mower.

Blade Control—Lubricate the pivot points on the blade control handle and the brake cable at least once a season with light oil. The blade control must operate freely in both directions.

Chute Deflector—The torsion spring and pivot point should be lubricated periodically with light oil to prevent any rust or binding. Deflector must work freely.

Wheels—The mower may be provided with ball bearing wheels. Lubricate at least once a season with light oil. Also, if the wheels are removed for any reason, lubricate the surface of the axle bolt and the inner surface of the wheel with light oil. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

Engine—Follow engine manual for lubrication instructions.

Chain—The chain should be lubricated periodically with a few drops of light oil to prevent any rust or binding. Use very little or no oil if unit is being used in a dusty or sandy area.

MAINTENANCE



WARNING: Be sure to disconnect and ground the spark plug wire before performing any repairs or maintenance.

NOTE: When tipping the unit, empty the fuel tank and keep engine spark plug or muffler side up.

TROUBLE SHOOTING

Refer to page 16 of this manual for trouble shooting information.

CUTTING BLADE

When removing the cutting blade for sharpening or replacement, protect hands by using heavy gloves or a rag to grasp the cutting blade. Remove the bolt and bell washer which hold the blade and adapter to the engine crankshaft. Remove the blade and adapter from the crankshaft.

If the blade or blade adapter needs replacing, remove the two small bolts, lock washers and nuts which hold the blade to the adapter.



WARNING: Periodically inspect the blade adapter for cracks, especially if you strike a foreign object. Replace when necessary.

When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

It is recommended that the blade always be removed from the adapter for the best test of balance.

The blade can be tested by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.

Before reassembling the blade and the blade adapter to the unit, lubricate the engine crankshaft and the inner surface of the blade adapter with light oil. Lubricating the bolt holes, bolts and inner surface of the nuts with light oil is also recommended. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

When replacing the blade, be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position.

Blade Mounting Torque

Center Bolt: 450 in. lbs. min., 600 in. lbs. max.

Blade Adapter Bolts: 200 in. lbs. min., 350 in. lbs. max.

To insure safe operation of your unit, **all** nuts and bolts must be checked periodically for correct tightness.

DECK

The underside of the mower deck should be cleaned after each use to prevent a buildup of grass clippings, leaves, dirt or other matter. If this debris is allowed to accumulate, it will invite rust and corrosion, and may cause an uneven discharge of grass clippings at the next cutting.

The deck may be cleaned by tilting the mower and scraping clean with a suitable tool (make certain the spark plug wire is disconnected).

ENGINE

Refer to the separate engine manual for engine maintenance instructions.

Maintain **engine oil** as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.

Service **air cleaner** every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced. To service the air cleaner, refer to the separate engine manual packed with your unit.

The **spark plug** should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specifications.

Clean the engine regularly with a cloth or brush. Keep the cooling system (blower housing area) clean to permit proper air circulation which is essential to engine performance and life. Be certain to remove all grass, dirt and combustible debris from muffler area.

OFF-SEASON STORAGE

The following steps should be taken to prepare lawn mower for storage.

1. Clean and lubricate mower thoroughly as described in the lubrication instructions.
2. Refer to separate engine manual for correct engine storage instructions.
3. Coat mower's cutting blade with chassis grease to prevent rusting.
4. Store mower in a dry, clean area. Do not store next to corrosive materials, such as fertilizer.

NOTE: *When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rust-proof the equipment. Using a light oil or silicone, coat the equipment, especially cables and all moving parts.*

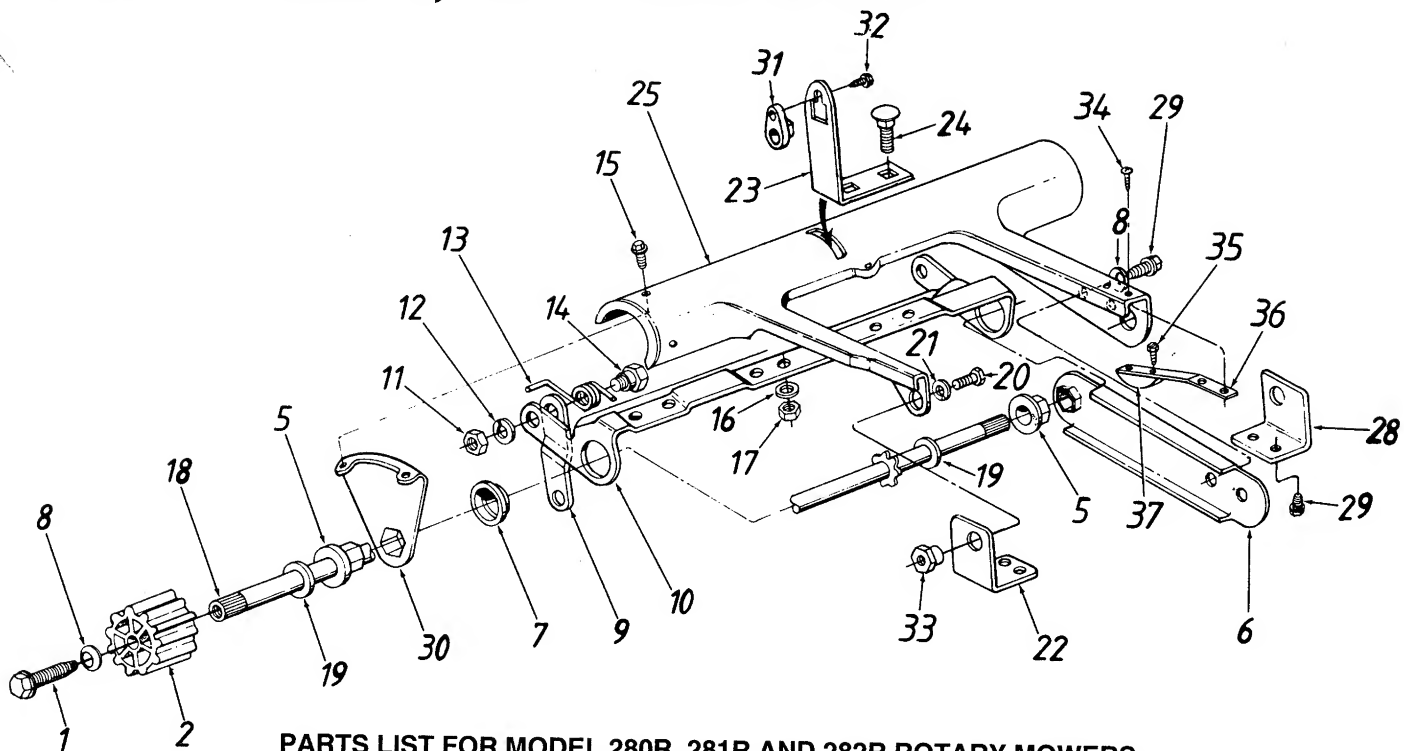
NOTE: The use of any accessory on this rotary mower other than those manufactured by the mower manufacturer is not recommended. GRASS CATCHER Model 190-086 is available as optional equipment for the mowers shown in this manual.



WARNING: To reduce the risk of injury, do not operate mower unless rear trailing shield and guard or entire grass catcher is in its proper places.

NOTE: Under normal usage bag material is subject to wear and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations.

Models 280R, 281R and 282R



PARTS LIST FOR MODEL 280R, 281R AND 282R ROTARY MOWERS

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	710-1115		Hex Scr. 1/4-20 x .75" Lg. (Gr. 5)	20	710-0168		Hex Bolt 3/8-16 x .5" Lg.*
2	731-0908		Wheel Drive Pinion	21	736-0169		L-Wash. 3/8" I.D.
5	741-0503		Hex Flange Brg. .504" I.D.	22	17614		Pivot Bracket—R.H.
6	17018		Hex Bearing Support	23	16756		Engagement Arm—L.H.
7	741-0504		Flange Bearing .879" I.D.	24	710-0258		Hex Bolt 1/4-20 x .62" Lg.
8	736-0270		Bell-Wash. .265" I.D. x .75" O.D.	25	17726		Rear Pinion Pivot Cover
9	14760A		Link 4.58" Lg.	28	17613		Pivot Bracket—L.H.
10	16832		Drive Engagement Cam	29	710-0892		Hex Wash. Hd. AB-Tap Scr. 1/4 x .62" Lg.
11	712-0267		Hex Nut 5/16-18 Thd.*	30	17017		Hex Bearing Axle Brkt.
12	736-0119		L-Wash. 5/16" I.D.*	31	746-0606		Barrel Cable Hold-Down—R.H.
13	732-0569		Torsion Spring—R.H.	32	710-0919		Hex B-Tap Scr. #10 x .44" Lg.
	732-0570	A	Torsion Spring—L.H. (Not Shown)	33	738-0529		Shld. Nut .625" Dia. x .165" Lg.
14	738-0754		Shoulder Bolt .437" Dia.	34	710-0351		Truss Mach. B-Tap Scr. #10 x .5" Lg.
15	710-0892		Hex L-Hd. AB-Tap Scr. 1/4" x .62" Lg.	35	710-0429		Hex B-Tap Scr. #10 x 3/8" Lg.
16	736-0329		L-Wash. 1/4" I.D.*	36	732-0634		Cantilever Spring
17	712-0287		Hex Nut 1/4-20 Thd.*	37	731-1136		Chain Tensioner
18	738-0732		Drive Shaft Ass'y.				
19	736-0160		Fl-Wash. .531" I.D. x .93" O.D.				

NOTE

This instruction manual covers various models, and all specifications shown do not necessarily apply to your model. Specifications subject to change without notice or obligation.

NOTE: The engine is not under warranty by the mower manufacturer. . . If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines—Gasoline."



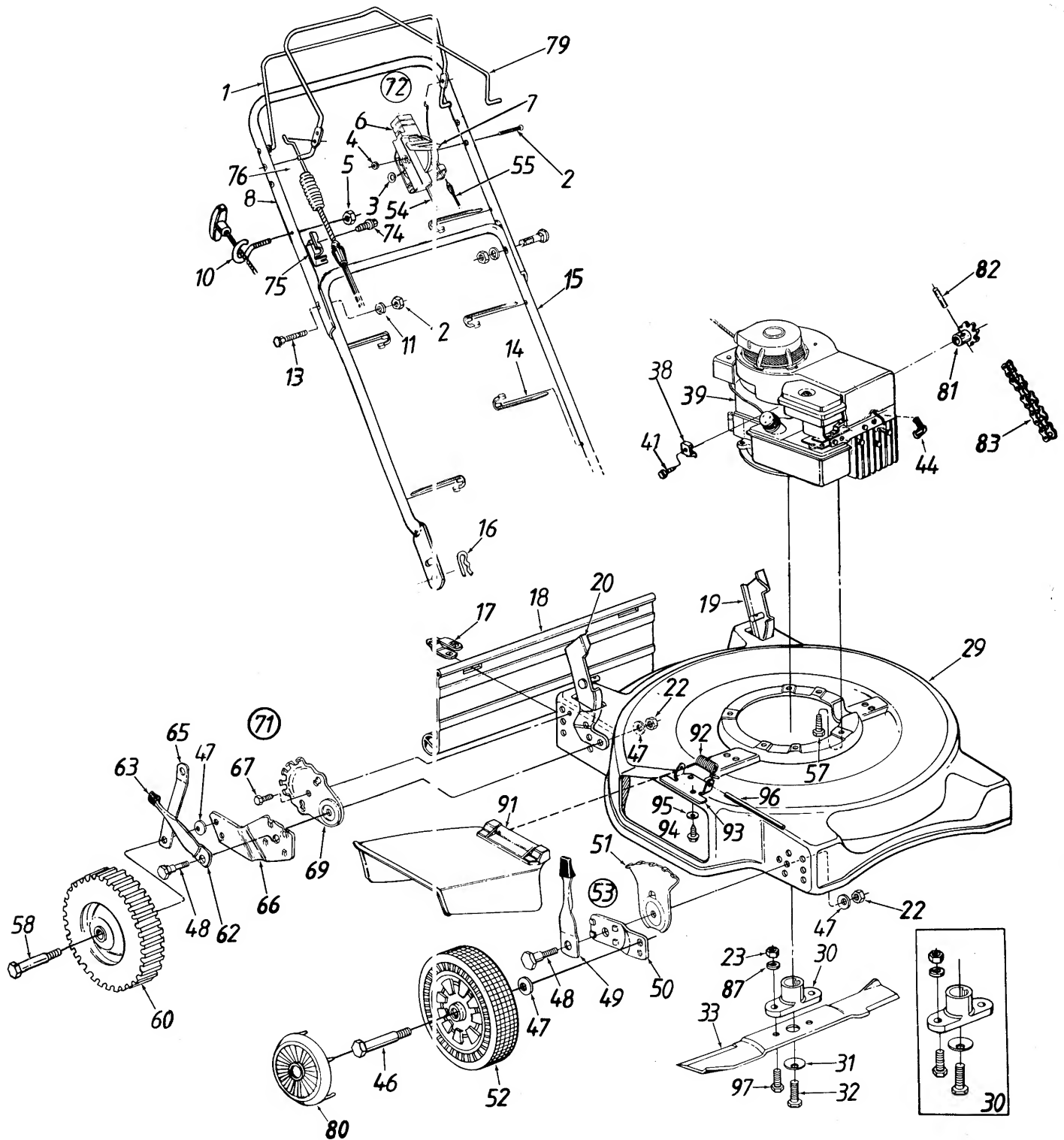
CODE: N notates a **new part** (not previously existing). A three digit number is the **color code**. Specify color code as shown below if color or finish is important when ordering parts. [i.e., 638 for Red Finish].

Color Codes

456—Radiant Tangerine
460—Green Flake
483—Charcoal Gray
498—Yellow
499—Beige
629—Silver Flake

637—Black
638—Red
640—Green
646—CM Blue
657—Teal

Models 280R, 281R and 282R



*For faster service obtain standard nuts, bolts and washers locally.
If these items cannot be obtained locally, order by part number
and size as shown on parts list.

***Optional Hub Caps

Red	731-0124A
Orange	731-0254
Black	731-0354
Gray	731-0355A




Models 280R, 281R and 282R

PARTS LIST FOR MODELS 280R, 281R AND 282R ROTARY MOWERS

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	747-0824	N	Control Handle		14579		Height Adj. Ass'y. Comp.—L.H. (Not Shown)
2	710-0602	N	Oval C-Sunk Mach. Scr.				Throttle Control Wire 51" Lg.
3	736-0501		Spr. Wash. .66" I.D.	54	746-0842	N	Control Cable—39"
4	712-0291		Hex L-Nut 1/4-20 Thd.*	55	746-0550		Hex L-Wash. Hd. Scr. 3/8-16
5	712-0324		Hex L-Nut 1/4-20 Thd.	57	710-0654A		x 1.0" Lg.
6	746-0875	N	Throttle Body				Rear Axle Bolt
7	746-0876	N	Throttle Lever	58	738-0144		Rear Wheel Ass'y. Comp.
8	749-0538C	N	Upper Handle	60	**		Spring Lever
10	710-1205		Rope Guide	62	732-0417A		Spring Lever Knob
11	736-0119		L-Wash. 5/16" I.D.*	63	720-0190		Link 4.58" Lg.
12	712-0267		Hex Nut 5/16-18 Thd.*	65	14760A		Pivot Bar R.H.
13	710-0671		Curved Carriage Bolt 5/16-18 x 1.38" Lg.	66	14765		Pivot Bar L.H. (Not Shown)
14	726-0240		Cable Tie		14766		Hex AB-Tap 1/4-.62" Lg.
15	749-0372B		Lower Handle	67	710-0892		Index Plate
16	714-0104		Hairpin Cotter	69	14764C		Rear Height Adj. Ass'y.—R.H.
17	17098		Hinge Clip	71	16106		Rear Height Adj. Ass'y.—L.H. (Not Shown)
18	731-0872		Rear Flap		16107		Throttle Box Comp. (Incl. Ref. 2, 3, 4, 6, 7)
19	17189		Handle Bracket Ass'y.—L.H.	72	811-00185		Hex Wash. AB-Tap Scr. 5/16 x .75" Lg.
20	17188		Handle Bracket Ass'y.—R.H.				Cable Brkt.
22	712-0798		Hex Nut 3/8-16 Thd.*	74	710-0726		Clutch Cable
23	712-0241		Hex Nut 3/8-24 Thd.				S.P. Bail Ass'y.
29	17046	638	22" Deck Ass'y.	75	16309A		Hub Cap (Optional)
30	753-0484		Blade Adapter Kit	76	746-0629	N	10 Tooth Sprocket Ass'y.
31	736-0452		Bell-Wash. .39" I.D.	79	747-0854	N	Spring Pin Spir. 3/16" Dia. x 1" Lg.
32	710-1044		Hex Bolt 3/8-24 x 1.5" Lg.	80	***		#48 Chain 1/2" Pitch 50 Links (Endless)
33	742-0522		22" Blade	81	713-0308		L-Wash. 3/8" I.D.*
38	751-0568	N	Cable Clamp (B&S)	82	715-0247		Chute Deflector Ass'y.
39	—		Engine				Torsion Spring
41	710-1237	N	Hex Wash. Hd. Scr. #10-32 x .62" Lg. (B&S)	83	713-0311		Adapter Plate
44	735-0639		Spark Plug Boot (Optional)	87	736-0169		Hex Self-Tap Scr. 1/4-20 x .5" Lg.
46	738-0102		Front Axle Bolt	91	731-1034		Bell-Wash. 1/4" I.D.
47	736-0105		Bell-Wash. .400" I.D. x .88"	92	732-0593		Hinge Pin
48	738-0507B		Shld. Bolt .50" Dia. x .357"	93	17032		Hex Bolt 3/8-24 x 1" Lg.
49	14832		Spring Lever Ass'y. w/Knob	94	710-0599		
50	15262B		Pivot Bar				
51	15261A		Height Adj. Plate	95	736-0270		
52	**		Front Wheel Ass'y. Comp.	96	747-0710		
53	14578		Height Adj. Ass'y. Comp.—R.H.	97	710-1055		

**WHEEL CHART (8 x 1.75)

Wheels w/o Bearings		Wheels With Bearings		
Tread†	Ass'y. Comp.	Tread†	Ass'y. Comp.	Bearings
Gear	734-1174A	Gear	734-0538 734-1026B	Plastic Brg. 1/2" I.D.-741-0262 (2 per Wheel) Ball Brg. 1/2" I.D.-741-0180 (2 per Wheel)
Bar	734-1608	"T" Tread	734-1566 734-1259	Plastic Brg. 1/2" I.D.-741-0262 (2 per Wheel) Ball Brgs.: 3/8" I.D.-741-0267, 1/2" I.D.-741-0484, Spacer-750-0434 (Uses Front Axle Bolt 710-1020)
Waffle	734-1162A	Waffle	734-0812 734-0924 734-0645	Plastic Brg. 1/2" I.D.-741-0262 (2 per Wheel) Ball Brg. 1/2" I.D.-741-0180 (2 per Wheel) Ball Brgs.: 3/8" I.D.-741-0267, 1/2" I.D.-741-0484, Spacer-750-0434 (Uses Front Axle Bolt 710-1020)

†Tread Type: Gear  ; Bar  ; "T" Tread  ; Waffle 

TROUBLE SHOOTING GUIDE

Trouble	Possible Cause(s)	Corrective Action
Engine fails to start	<ol style="list-style-type: none"> 1. Blade control handle disengaged. 2. Spark plug wire disconnected. 3. Throttle control lever not in FAST or START position. 4. Fuel tank empty, or stale fuel. 5. Blocked fuel line (if so equipped). 6. Faulty spark plug. 7. Engine flooded. 	<ol style="list-style-type: none"> 1. Engage blade control handle. 2. Connect wire to spark plug. 3. Move throttle lever to FAST or START position. 4. Fill tank with clean, fresh gasoline. 5. Clean fuel line. 6. Clean, adjust gap or replace. 7. Remove spark plug, dry the plug, and crank engine with plug removed and throttle in off position. Replace spark plug, connect wire and resume starting procedures.
Engine runs erratic	<ol style="list-style-type: none"> 1. Unit running in START position. 2. Spark plug wire loose. 3. Blocked fuel line (if so equipped) or stale fuel. 4. Vent in gas cap plugged. 5. Water or dirt in fuel system. 6. Dirty air cleaner. 7. Carburetor out of adjustment. 	<ol style="list-style-type: none"> 1. Move throttle lever to FAST position. 2. Connect and tighten spark plug wire. 3. Clean fuel line; fill tank with clean, fresh gasoline. 4. Clear vent. 5. Drain fuel tank. Refill with fresh fuel. 6. Clean air cleaner.† 7. Adjust carburetor.†
Engine overheats	<ol style="list-style-type: none"> 1. Engine oil level low. 2. Air flow restricted. 3. Carburetor not adjusted properly. 	<ol style="list-style-type: none"> 1. Fill crankcase with proper oil. 2. Remove blower housing and clean.† 3. Adjust carburetor.†
Occasional skip (hesitates) at high speed	<ol style="list-style-type: none"> 1. Spark plug gap too close. 2. Carburetor idle mixture adjustment improperly set. 	<ol style="list-style-type: none"> 1. Adjust gap to .030". 2. Adjust carburetor.†
Idles poorly	<ol style="list-style-type: none"> 1. Spark plug fouled, faulty or gap too wide. 2. Carburetor improperly adjusted. 3. Dirty air cleaner 	<ol style="list-style-type: none"> 1. Reset gap to .030" or replace spark plug. 2. Adjust carburetor.† 3. Clean air cleaner.†
Excessive vibration	<ol style="list-style-type: none"> 1. Cutting blade loose or unbalanced. 2. Bent cutting blade. 	<ol style="list-style-type: none"> 1. Tighten blade and adapter. Balance blade. 2. Replace blade.
Mower will not discharge grass	<ol style="list-style-type: none"> 1. Engine speed too low. 2. Wet grass. 3. Excessively high grass. 	<ol style="list-style-type: none"> 1. Set throttle between 3/4 and full throttle. 2. Do not mow when grass is wet; wait until later to cut. 3. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting swath (1/2 width).
Uneven cut	<ol style="list-style-type: none"> 1. Wheels not positioned correctly. 2. Dull blade. 	<ol style="list-style-type: none"> 1. Place all four wheels in same height position. 2. Sharpen or replace blade.

†Refer to separate engine manual packed with your unit.

Note: For repairs beyond the minor adjustments listed above, please contact your local authorized service dealer.

FOR REPLACEMENT PARTS, CONTACT:
SERVICE DEPARTMENT • F.O. BOX 360900 • CLEVELAND, OHIO 44136